



PROGRAM/PROJECT MANAGEMENT CERTIFICATION

GUIDELINES FOR REPORTING AND TRACKING CONTINUOUS LEARNING ACTIVITIES IN SATERN

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Introduction

Tracking continuous learning activities is a core requirement for Office of Management and Budget mandated Federal Acquisition Certification for Program and Project Managers (FAC-P/PM). To maintain a FAC-P/PM, certified NASA P/PMs are required to earn 80 Continuous Learning Points (CLPs) for participating in continuous learning activities every two years. NASA's Academy of Program/Project and Engineering Leadership (APPEL) is establishing processes to document the certification status of each certified P/PM and to track participation of continuous learning activities necessary for recertification through the System for Administration, Training and Education Resources for NASA (SATERN).

Certified NASA P/PMs will have a designation in their learning history which reflects their certification status including the date certified. This information will be maintained and updated in SATERN for all certified NASA P/PMs by APPEL's Logistics Contractor. SATERN has an existing unpopulated field for capturing Continuing Professional Education (CPE). Rather than create a new data field, CLPs for all activities will be tracked using the existing CPE field. **The term CPE will be used to represent CLP in SATERN.**

Types of Continuous Learning Activities Eligible for Recertification

NASA Program and Project Managers (P/PMs) can earn recertification CPEs for **job related** continuous learning activities through participation in approved training and development activities that meet OMB competency requirements.

Approved internal training includes validated APPEL, Center, and Agency courses. APPEL has already reviewed its existing course content against the development of OMB/NASA competencies and assigned the appropriate CPEs in SATERN. The next priorities will be to review existing instructor-led and online Center courses and those Agency Discipline courses sponsored by ICE, IEMP, ITS, Office of Procurement, NESC Academy, SMA. OHCM's Leadership and Management Development Programs (LMD) will also be included for recertification. The APPEL Logistics Contractor will enter the appropriate CPEs in SATERN for these programs.

Below is a list of other development activities that have been defined by APPEL based on OMB guidelines. These activities have been entered into SATERN by the APPEL Logistics Contractor to appear in the P/PM Re-certification Catalog (see pages 5, 6, & 7):

- On the job learning experiences such as developmental/rotational assignments
- Membership or participation in NASA Center or Agency boards, review teams, etc.
- Professional activities such as attending/speaking at forums/professional seminars/symposia/conferences, publishing articles or trade papers, etc.
- Team-based learning activities
- Observing formal NASA reviews

Center and Agency courses and development activities will be assessed by Center personnel and APPEL to determine if they meet OMB requirements for continuous learning. A review of *Skillsoft* courses will take place at a later date.

External training includes **job related** university, non-university courses, and other external events that an employee may take. Although these activities will not be captured in the P/PM Re-

certification Catalog, participants can earn credit for participating in the activities if the activities are job related or relevant to the required competencies described later in this document. As employees complete the FS- 182 Request Form, they enter the number of contact hours for the activity which can be easily converted to CPEs (1 contact hour = 1 CPE).

The following sections describe the submission and approval process for Center and Agency courses and activities and provide details on assigning CPEs.

Process for Validating Courses and Activities

Valid courses and activities are **job related** and support obtaining proficiency in APPEL project management, system engineering, and common competencies described on pages 9 through 12. The process for validating applicable Center courses and activities is outlined below:

- The Centers will conduct an initial review of course content against OMB and NASA APPEL project management, systems engineering, and common competencies to determine applicability for recertification.
- Centers will forward under the Center Training Officer or Center Director's signature their recommendation for any courses or other developmental activities to be approved for recertification credit. A template is provided on pages 8 through 12 which can be completed and sent via email to Dr. Edward Hoffman (ehoffman@nasa.gov) the APPEL Director, Donna Wilson (donna.wilson@inuteqllc.com) and Anthony Maturo (anthony.j.maturo@nasa.gov). The following items must be included:
 - SATERN Item Title (*if applicable*)*
 - SATERN Item ID (*if applicable*)*
 - Course or Activity Goal
 - Learning Objectives for Course or Activity
 - Target Course or Activity Audience (Indicate NASA level of project leadership using these guidelines):
 - *Level 1:* Team Practitioners/Technical Engineers – those practitioners who are at the beginning of their project management or systems engineering careers and are serving on teams
 - *Level 2:* Subsystem Leads – those practitioners who have established a solid base of technical expertise and who independently manage definite portions of smaller projects or subsystems
 - *Level 3:* Project Managers and Project Systems Engineers - those practitioners who have had prior supervisory experience managing projects or systems or portions of large projects or systems
 - *Level 4:* Program Managers and Program Systems Engineers - upper level managers (Project Managers and Systems Engineers) serving as leaders of entire projects and programs of the organization as a whole
- Recommended number of CPEs should be based on 1 CPE per hour of activity unless the activity falls under the categories described in the table on page 6. In this instance, CPEs should be assigned using the same scale which has been based on specific guidelines in OMB letter dated April 25, 2007.
- Completed Course/Activity Competency Worksheet which specifies competencies covered in the course or activity. For approval a course must develop proficiency for at least one project management, systems engineering, or common competency. Proficiency means that an individual who attends the course or activity will be able to at a minimum define, identify, or describe the

use of the competency. The desired outcome is that the individual be able to apply the competency in their job responsibilities at NASA.

**In some instances, the course/activity may not yet be tracked in SATERN.*

APPEL will review the Center submission for applicability for meeting OMB requirements for continuous learning and recertification. The APPEL Director will then send a response back to the Center Training Officer/Technical Development Chairperson with a copy to the Center Director, Engineering Director, Program/Project Director and the Human Resources Director indicating whether or not the course or activity is approved as eligible to satisfy OMB recertification requirements. This approval is valid for up to five years or in the event the course or activity goes through a major revision, in which case, additional review may be required.

The Center SATERN Administrators Lead (SAL) must do the following:

- Populate the CPE field for the course or activity
- Flag the course or activity as approved in SATERN for recertification credit (*Such identification will be accomplished through the use of a new Custom Field in SATERN – Custom Field #24 entitled “P/PM Recertification”. SALs will need to assign the “Y” value for approved courses.*)
- Add the course or activity to the “P/PM Recertification” Catalog in SATERN
- Maintain accurate training records and record credit for this validated course in SATERN
- Forward an email to **Faith Rahman**, the APPEL SAL for the APPEL Discipline, at **frahman@sevatec.com**, indicating completion of the updates.
 - *If the validated course took place since April 2009, please contact Faith Rahman or Deputy SAL, Sheronda Robertson, for guidance on how to record retroactive credit.*

Questions should be directed to Faith Rahman or Sheronda Robertson (srobinson@sevatec.com) with any questions.

Courses and Activities with Pre-Assigned CPEs

CPEs can be pre-assigned for courses and for those activities which have a consistent uniform duration. **As stated earlier, the APPEL Logistics Contractor will be responsible for assigning CPEs for APPEL courses and activities. The Centers or the discipline sponsor will pre-assign the appropriate CPEs for APPEL approved Center courses and activities based on 1 CPE per contact hour (e.g. a 40-hour course = 40 CPEs).** Individuals will earn CPEs when their course participation is recorded. To encourage diversity in the types of learning activities an individual participates in, maximum CPEs have been recommended.

The table below provides the number of CPEs and the maximums for activities with pre-assigned CPEs.

ACTIVITIES WITH PRE-ASSIGNED CPEs			
Activity	Description of types of activities included	CPE	Maximum CPEs per year
Courses (Internal)	Includes APPEL, Center, Discipline, Agency courses	1 CPE per contact hour	80
Master’s Forum	This is a 3-day APPEL sponsored knowledge sharing event which is held in the Spring and Fall of each year	24 CPEs	48
PM Challenge	This is an annual 2-day knowledge sharing event sponsored by APPEL	16 CPEs	16
PI Forum	This is a 3-day knowledge sharing event sponsored by APPEL in association with Exploration System Mission	24 CPEs	24

	Directorate		
APPEL Sponsored Team-Based Learning Activities	Team Development Assessment (TDA) activities (Team Lead)	6 CPEs per TDA	24
	Team Development Assessment (TDA) activities (Team Member)	2 CPEs per TDA	8
	4-D Workshop Activities (Team Leader)	6 per hr of activity	24
	4-D Workshop Activities (Participant)		
	- 3 day workshop - 2.5 day workshop - 2 day workshop	26 CPEs 22 CPEs 18 CPEs	52 44 36
Courses (External)	Includes non-NASA courses (university and non-university) and conferences	1 CPE per contact hr. 1 CPE per semester hr.	80

Guidelines for Self-Recorded Activities

Because some activities vary in duration, it is not possible to pre-assign CPEs. For these items, P/PMs will self-record (unless otherwise designated by a Center) their participation and the appropriate CPEs by following instructions provided in SATERN under the item description. The APPEL Logistics Contractor has entered such activities as well as directions on how to claim CPEs in the associated DESCRIPTION field in SATERN. The following information will be noted in the field:

- Description of the activity and/or examples of types of activities included
- The number of CPEs earned per unit of activity and the maximum number of CPEs that can be earned per year for the activity

Should an activity sponsor identify an activity that fits within these guidelines and is not represented in the SATERN system, the activity sponsor's SAL should work with the APPEL SAL to identify a process for such data entry into SATERN.

The table below lists provides associated CPEs for APPEL approved self-recorded development activities. It is expected that there will be additional Center-specific self-recorded development activities that will be recommended to and approved by APPEL.

CPEs FOR SELF-RECORDED ACTIVITIES			
Activity	Description of types of activities included	CPE	Maximum CPEs per year
Serving on Internal NASA Boards or Teams	Includes serving on or membership in the following: <ul style="list-style-type: none"> • Critical NASA activity board (e.g. PPMB) • Agency, Mission Directorate, or Center PMC • Review board member for NASA technical review • Standing Review Board, Failure Review Board, Source Evaluation Board or other special purpose team or committee • Center/Agency team to define policy or improve processes 	1 CPE per hour of activity	60
Chairing Internal NASA Boards or Teams	Includes chairing or leading: <ul style="list-style-type: none"> • Critical NASA activity board (e.g. PPMB) • Agency, Mission Directorate, or Center PMC • Review board member for NASA technical review • Standing Review Board, Failure Board, Source Evaluation Board or other special purpose team or 	2 CPEs per hour of activity	60

	committee <ul style="list-style-type: none"> Center/Agency team to define policy or improve processes 		
Chairing or serving as an officer on external boards	Playing an active role such as an officer, committee chair in a professional organization (e.g. AIAA, AAS)	.5 CPEs per hr. of activity	40
APPEL Sponsored Individual Team Assessment s	Participation in debriefing session with a coach, creating an action plan	1 CPE per hr. of activity	40
Center Forums	Includes Center knowledge-sharing sessions such as lunch and learns, forums, etc.	1 CPE per hr. of activity	24
Publications	Publication of PM, SE, or Acquisition related article or technical paper	15 CPEs per article or 30 per paper	30 60
Observing reviews	Observing a Center or Agency monthly or quarterly review for other than assigned project	.5 CPEs per hr. of activity	40
Rotational assignments	Intense learning experiences in the form of structured or unstructured work/training experiences in the current job or a temporary move to another position (e.g. Project HOPE)	2 CPEs per day	80
Instructing or moderating a course or seminar	Teaching part of or an entire APPEL, Center, or Agency course or seminar	1 CPE per hour of instruction	40
Professional Certifications	Achieving a license or certification including the examination	40 CPEs in year achieved	40

These guidelines have been developed to ensure NASA has a consistent approach to tracking and reporting OMB required continuous learning activities. The APPEL team and the APPEL Logistics Contractor will be available to support the Centers throughout this process.

Tracking Process for Participants

Certified P/PMs are responsible for ensuring that they obtain the required 80 CPEs necessary to maintain certification. To make the tracking process easier, SATERN will automatically tally the number of CPEs earned within the 2 year recertification period for each P/PM from the date of certification. (*The date of certification is the date the FAC-P/PM recommendation from the Center Review Panel is signed by the NASA Chief Engineer.*) The system will also send out quarterly updates to participants making them aware of the number of CPEs they have earned to date.

SATERN will automatically tally CPEs for all of the activities described within this document with the exception of the external courses and activities. These events however will appear in an individual's SATERN learning history. It is highly unlikely that an individual will not meet the required 80 CPEs by participating in NASA activities. In the event this does occur, a report can be run that will count hours for all external training events and a manual process can be used to credit CPEs as appropriate for recertification.

TEMPLATE

RECOMMENDATION FOR RECERTIFICATION APPROVAL OF COURSE/ACTIVITY

The course/activity below has been reviewed and is being recommended for P/PM recertification credit for certified NASA program/project managers. Please submit completed copy to Dr. Edward Hoffman (ehoffman@nasa.gov) the APPEL Director, Donna Wilson (donna.wilson@inuteqllc.com) and Anthony Maturo (anthony.j.maturo@nasa.gov).

CENTER:

PROGRAM POINT OF CONTACT:

POC EMAIL:

CENTER SATERN ADMINISTRATOR LEAD:

SATERN ITEM TITLE:

SATERN ITEM ID:

SPONSOR: Choose an item.

IF "OTHER," PLEASE SPECIFY:

TARGET AUDIENCE: Choose an item.

IF "OTHER," PLEASE SPECIFY:

COURSE/ACTIVITY GOAL:

DOES THIS COURSE OR ACTIVITY MEET OMB COMPETENCIES?

PLEASE ATTACH THE COMPLETED COURSE/ACTIVITY COMPETENCY WORKSHEET (PAGES 8-12)

RECOMMENDED NUMBER OF CPEs:

THIS COURSE/ACTIVITY MUST BE MADE AVAILABLE TO OTHER CENTERS.

Training Officer or Center Director Signature

Date

COURSE/ACTIVITY COMPETENCY WORKSHEET	
<p>FOLLOWING ARE A LIST OF APPEL PROJECT MANAGEMENT, SYSTEMS ENGINEERING, AND COMMON COMPETENCIES. A COURSE OR ACTIVITY MUST COVER AT LEAST ONE OF THESE COMPETENCIES TO MEET OMB/NASA REQUIREMENTS FOR APPROVAL FOR RECERTIFICATION CREDIT.</p> <p>PLEASE CHECK ALL THAT APPLY.</p>	
PROJECT MANAGEMENT COMPETENCIES	
<p>PM1.0 PROJECT CONCEPTUALIZATION: Development of a concept, overall plan, and proposal for a successful NASA project. Includes preliminary definition of; program/project plan content; acquisition strategy and plans; risk management plan; development of a realistic cost estimate and a sound rationale for consistency with the NASA vision, strategies, and objectives.</p>	
<input type="checkbox"/>	<p>PM1.1 Project Proposal: Conceptualizing, analyzing, and defining program/project plans and concepts and using technical expertise to write, manage, and submit winning proposals. Also involves developing functional, physical, and operational architectures including life cycle costing.</p>
<input type="checkbox"/>	<p>PM1.2 Requirements Development and Management: Developing project requirements using functional analysis, decomposition, and allocation; finalizing project requirements into the baseline; and managing project requirements so that changes are minimal. Defining, developing, verifying, reviewing and managing changes to program/project requirements.</p>
<input type="checkbox"/>	<p>PM1.3 Acquisition Management: Developing, implementing, and monitoring acquisition strategies, procurement processes, contract activities, and approval requirements to support flight hardware/software or other project requirements.</p>
<input type="checkbox"/>	<p>PM1.4 Project Planning: Developing effective project management plans and integration of project elements for small, moderate, and complex projects including scope definition, schedule and resource estimation and allocation for all project phase activities from concept to operation and disposal.</p>
<input type="checkbox"/>	<p>PM1.5 Cost-Estimating: Developing credible cost estimates to support a variety of studies, affordability analyses, strategic planning, capital investment decision-making, and budget preparation during project planning. Also, providing information for independent assessments as required.</p>
<input type="checkbox"/>	<p>PM1.6 Risk Management: Identifying and analyzing risk and its impact; developing and implementing strategies for risk mitigation; tracking risk, and implementing continuous risk management plans. Also involves communicating risk information to all project/ program levels.</p>
<p>PM2.0 RESOURCE MANAGEMENT: Overall planning, allocation, and management of program / project resources. Includes advocacy; budget and operating plan development and management; allocation of financial, facility and other resources; tracking and control of contractor performance using Earned Value Management or comparable approaches.</p>	
<input type="checkbox"/>	<p>PM2.1 Budget and Full Cost Management: Executing NASA and Center budgeting processes for annual (PPBE) and life cycle budget projections ensuring consistency between resource availability and project resource needs, including staffing, facilities, equipment, and budget.</p>
<input type="checkbox"/>	<p>PM2.2 Capital Management: Allocating, tracking, and managing funding and other capital resources within a project element, project or program.</p>
<p>PM3.0 PROJECT IMPLEMENTATION: The overall process of project initiation and implementation, including delegation of systems engineering responsibilities to the technical team (<i>see SE competencies</i>), penetration and insight of all contractor activities, evaluation of contractor performance, control of contract changes, and determination, and approval of contract award fees throughout the design, fabrication, assembly, integration, verification, validation, transition, and operational phases of the project lifecycle.</p>	
<input type="checkbox"/>	<p>PM3.1 Systems Engineering: <i>See Systems Engineering Competencies later in this document</i></p>
<input type="checkbox"/>	<p>PM3.2 Contract Management: Performing acquisition management and monitoring contractor activities to ensure products and services are delivered on time, at projected costs, and meet all contract requirements. Also involves performing variance reporting and change control functions.</p>
<p>PM4.0 Project Closeout: Overall planning and management of project closeout activities, based on assessment of project completion, political and other pertinent factors and stakeholder agreements.</p>	
<input type="checkbox"/>	<p>PM4.1 Stakeholder Management: Identifying, soliciting, and executing of planning interrelationships with</p>

<input type="checkbox"/>	those individuals and organizations that are actively involved in the project, exert influence over the project and its results, or whose interests may be positively or negatively affected as a result of project execution or project completion.
<input type="checkbox"/>	PM4.2 Technology Transfer and Commercialization: Evaluating the feasibility, development, progression, readiness, cost, risk, and benefits of new technologies so they can be developed and transferred efficiently and effectively to project stakeholders or for possible commercialization.
PM5.0 PROGRAM CONTROL AND EVALUATION: Process for controlling the final outcome of the program / project including tracking the performance of all significant contractors, vendors, and other involved entities. Requires penetration/insight of contractors' status and performance, allocation of resources, management of mitigation efforts, exercise of de-scope options when required and leading work-around options. Also includes management of the continuum of internal and external project reviews.	
<input type="checkbox"/>	PM5.1 Tracking/Trending of Project Performance: Monitoring and evaluating performance metrics, project risks, and earned value data to analyze, assess and report program/project status and technical performance.
<input type="checkbox"/>	PM5.2 Project Control: Performing activities to control cost, schedule, and content and configuration to assure the project's performance is within approved baseline and to address performance variances.
<input type="checkbox"/>	PM5.3 Project Review and Evaluation: Planning, conducting and managing internal and external project programmatic reviews that include using metrics to monitor and track the status of the project.
SYSTEMS ENGINEERING COMPETENCIES	
SE1.0 SYSTEM DESIGN: System design includes developing stakeholder expectations, defining technical requirements, performing logical decomposition, and defining design solutions to result in a validated set of requirements and a validated design solution that satisfies a set of stakeholder expectations.	
<input type="checkbox"/>	SE1.1 Stakeholder Expectation Definition: Elicitation and definition of use cases, scenarios, operational concepts, and stakeholder expectations. This includes identification of the stakeholders, establishing support strategies, establishing a set of Measures of Effectiveness (MOEs), validating stakeholder expectation statements, and obtaining commitments from the customer and other stakeholders.
<input type="checkbox"/>	SE1.2 Technical Requirements Definition: Transformation of the baselined stakeholder expectations into unique, quantitative, and measureable technical requirements expressed as "shall" statements that can be used for defining the design solution. This includes analyzing the scope of the technical effort, defining constraints affecting the designs, defining functional and behavioral expectations in technical terms, defining the performance requirements, validating the resulting technical requirement statements, defining the Measures of Performance (MOPs) for each MOE, and defining appropriate Technical Performance Measures (TPMs) by which technical progress will be assessed.
<input type="checkbox"/>	SE1.3 Logical Decomposition: Transformation of the defined set of technical requirements into a set of logical decomposition models and their associated set of derived technical requirements for input to the design solution efforts. This includes allocation of requirements, resolution of conflicts between derived requirements, and validation of the derived technical requirements.
<input type="checkbox"/>	SE1.4 Design Solution Definition: Translation of the decomposition models and derived requirements into alternative solutions, then analysis of each alternative and selection of a preferred alternative that is fully defined to satisfy the technical requirements. This includes development of a set of 'make-to,' 'buy-to,' 'reuse-to,' or set of 'assemble and integrate-to' specified requirements, interface specifications, requirements for enabling products, a product verification plan, and a product validation plan.
SE2.0 PRODUCT REALIZATION: The product realization results in the delivery of the completed system of interest that meets the design specifications and stakeholder expectations. This requires products to be produced, acquired, reused or coded; integrated into higher level assemblies; verified against design specifications; validated against stakeholder expectations; and transitioned to the next level of the system.	
<input type="checkbox"/>	SE2.1 Product Implementation: Generation of a specific product through buying, making, or reusing so as to satisfy the design solution definition specified requirements. This includes preparing the implementation strategy, review of vendor technical information, inspection of delivered, built, or reused products, and preparation of product support documentation for integration.
<input type="checkbox"/>	SE2.2 Product Integration: Assembly and integration of lower-level validated end products so as to satisfy the design solution definition requirements. This includes preparing the integration plans and procedures, obtaining products to integrate, confirmation that the products are ready for integration, preparation of the integration environment, and preparation of product support documentation.
<input type="checkbox"/>	SE2.3 Product Verification: Demonstration that the end product generated from implementation or integration conforms to its design solution definition requirements. This includes preparation for verification efforts, analyzing the outcomes of verification (including identifying anomalies and establishing

	recommended corrective actions), and preparing a product verification report providing the evidence of product conformance with the applicable design solution definition requirements.
<input type="checkbox"/>	SE2.4 Product Validation: Confirmation that a verified end product satisfies its intended use when placed in its intended environment and to assurance that any anomalies discovered during validation are appropriately resolved prior to product transition. This includes preparing to conduct validation, analyzing the results of validation (including identifying anomalies and establishing recommended corrective actions), and preparing a product validation report providing the evidence of product conformance with the stakeholder expectations baseline.
<input type="checkbox"/>	SE2.5 Product Transition: Transition of the verified and validated product to the next higher-level customer. This includes preparing to conduct product transition, evaluating the product, personnel, and enabling product readiness for product transition, preparing sites, and generating required documentation to accompany the product.
3.0 TECHNICAL MANAGEMENT: Management of the technical activities during the life cycle of the project includes technical planning, requirements management, interface management, technical risk management, configuration management, technical data management, technical assessment, and decision analysis.	
<input type="checkbox"/>	SE3.1 Technical Planning: The planning for the application and management of each common technical process, as well as the identification, definition, and planning of the technical effort necessary to meet project objectives. This includes preparing or updating a planning strategy for each of the technical processes, determining deliverable work products from technical efforts, determining technical reporting requirements, determining entry and success criteria for technical reviews, determining product and process measures to be used, determining critical technical events, determining data management approach, determining technical risks to be addressed in the planning effort, determining tools and engineering methods to be employed, determining the approach to acquire and maintain technical expertise needed, preparing the System Engineering Management Plan (SEMP) and other technical plans, obtaining stakeholder commitments to the technical plans, and issuing authorized technical work directives to implement the technical work..
<input type="checkbox"/>	SE3.2 Requirements Management: Management of the technical requirements, including providing bidirectional traceability and managing changes to establish requirement baselines over the lifecycle of the system products. This includes preparing or updating a strategy for requirements management, selecting an appropriate requirements management tool, training technical team members in established requirement management procedures, conducting expectation and requirements traceability, managing expectation and requirement changes, and communicating expectation and requirement change information.
<input type="checkbox"/>	SE3.3 Interface Management: Establishment and use of formal interface management to maintain interface definition, details, and compliance among the end products and enabling products. This includes preparing interface management procedures, identification of interfaces, maintaining interface documentation, disseminating interface information, and conducting interface control.
<input type="checkbox"/>	SE3.4 Technical Risk Management: Examination on a continuing basis the risks of technical deviations from the plans and identifying potential technical problems before they occur so that risk-handling activities can be planned and invoked as needed across the life of the product or project to mitigate impacts on meeting technical objectives. This includes developing the strategy for technical risk management, identification of technical risks, conducting technical risk assessment, preparing for technical risk mitigation, monitoring the status of each technical risk, and implementing technical risk mitigation and contingency action plans when applicable thresholds have been triggered.
<input type="checkbox"/>	SE3.5 Configuration Management: The process of identifying the configuration of the product at various points in time, systematically controlling changes to the configuration of the product, maintaining the integrity and traceability of the configuration of the product, and preserving the records of the product configuration throughout its life cycle, disposing them in accordance with NPR1441.1 NASA Records Retention Schedules. This includes establishing configuration management strategies and policies, identifying baselines to be under configuration control, maintaining the status of configuration documentation, and conduct of configuration audits.
<input type="checkbox"/>	SE3.6 Technical Data Management: Identifying and controlling data requirements, acquiring, accessing and distributing data needed to develop, manage, operate, and support system products, manage and dispose data as records, analyze data use; obtain technical data feedback for managing the contracted technical efforts; and assess the collection of appropriate technical data and information. This includes establishing technical data management strategies and policies, maintaining stored technical data, providing technical data to authorized parties, and collection and storage of required technical data.

<input type="checkbox"/>	SE3.7 Technical Assessment: Monitor progress of the technical effort and provide status information for support of the system design, product realization, and technical management efforts. This includes developing technical assessment strategies and policies, assessing technical work productivity, assessing product quality, and conducting technical reviews.
<input type="checkbox"/>	SE3.8 Technical Decision Analysis: Evaluation of technical decision issues, technical alternatives, and their uncertainties to support decision making. This is done throughout technical management, system design, and product realization to evaluate the impact of decisions on performance, cost, schedule, and technical risk. This includes establishing guidelines for determining which technical issues are subject to formal analysis processes, defining the criteria for evaluating alternative solutions, identifying alternative solutions to address decision issues, selecting evaluation methods, selecting recommended solutions, and reporting the results and findings with recommendations, impacts, and corrective actions.
COMMON COMPETENCIES	
C1.0 NASA INTERNAL AND EXTERNAL ENVIRONMENTS: Aligning activities with Agency vision, mission, objectives, goals and plans, and center environment; structuring activities to comply with relevant Agency and Center processes and guidelines; understanding and operating within the overall political, budgetary, cultural, technical, programmatic, and strategic environment in which the project must operate and succeed, including legal implications of NASA international agreements, standards, policies and procedures.	
<input type="checkbox"/>	C1.1 Agency Structure, Mission, and Internal Goals: Understanding and successfully adapting work approach and style to NASA's functional, social, cultural, and political structure and interrelationships to achieve Agency, Mission, Directorate, Center, program and project goals. Includes aligning activities with Agency vision, mission, objectives, goals and plans.
<input type="checkbox"/>	C1.2 NASA Procedures and Guidelines: Structuring activities to comply with relevant Agency and Center processes and guidelines, including NPR7120.5 and NPR7123.1.
<input type="checkbox"/>	C1.3 External Relationships: Maintaining cognizance of the policies and procedures of other organizations by participating in professional societies/organizations, contributing to professional development activities, researching best practices from external sources such as industry standards, procedures, and regulations and Universities, and developing international partnerships and agreements, where applicable, complying with ITAR and as well as international agreements and standards.
C2.0 HUMAN CAPITAL MANAGEMENT: All elements of project team personnel management including identifying, recruiting, selecting, managing, and evaluating the team members to achieve a coherent, efficient, and effective project team. Includes vigorous open communications, decision-making processes, and working relationships.	
<input type="checkbox"/>	C2.1 Staffing and Performance: All elements of personnel management including, identifying, recruiting, selecting, managing, and evaluating the team members to achieve a coherent, efficient, and effective team. Includes vigorous open communications, decision-making processes, and working relationships.
<input type="checkbox"/>	C2.2 Team Dynamics and Management: Managing the team aspects of the workforce. This requires: working cooperatively with diverse team members; designing, facilitating, and managing team processes; developing and implementing strategies to promote team morale and productivity; motivating and rewarding team members' performance; managing relationships among team members, customers, stakeholders and partners; and facilitating brainstorming sessions, conflict resolution, negotiation and problem solving, communication, collaboration, integration and team meetings.
C3.0 SECURITY, SAFETY AND MISSION ASSURANCE: Activities associated with assuring the security of sensitive information and systems, the safety of personnel and equipment, and success of the project. Includes: identification of IT security requirements; development and implementation of an IT security plan; planning and management of system safety; planning and management of safety and mission assurance requirements and plans and reviews; environmental impact statements; hazards analyses, elimination, and mitigation; mishap investigations; failure review boards; the flight safety review process; safety, mission assurance, and risk management plans.	
<input type="checkbox"/>	C3.1 Security: Assuring that all proprietary, classified and privileged information is protected from unauthorized use and dissemination. Also requires identification of information technology (IT) security requirements and developing and implementing an effective IT security plan.
<input type="checkbox"/>	C3.2 Workplace Safety: Ensuring that workplace safety is an integral part of developing products by applying systems safety analysis techniques throughout the project life cycle and integrating critical hazard elimination/mitigation measures into risk management and safety plans.
<input type="checkbox"/>	C3.3 Safety and Mission Assurance: Activities associated with assuring the safety of personnel and property and success of the project. These activities include: Environmental Impact Statements; hazards analyses, elimination, and mitigation; mishap investigations; failure review boards; the flight safety review process; and safety, mission assurance, and risk management plans.

C4.0 PROFESSIONAL AND LEADERSHIP DEVELOPMENT: The continuous development of professional and leadership qualities among all members of the program / project team through: mentoring and coaching opportunities; NASA cultural and functional training opportunities; oral and written communications that assure all are aware of status and decisions which affect them; recognition and reward for personal achievements; and the example of ethical behavior and compliance with Federal government policies at all times.	
<input type="checkbox"/>	C4.1 Mentoring and Coaching: Activities designed to help less-experienced members of the team to advance their knowledge and careers by: acting as a advisor, sponsor, or confidant who shares knowledge about NASA's functional, social, cultural, and political aspects or provides counseling to cultivate skills in order to enhance individual, team and organizational performance and growth.
<input type="checkbox"/>	C4.2 Communication: Implementing effective strategies for clear and constructive communication both internally within the team and externally to stakeholders, other experts, contractors and others. Also involves communicating decisions in a timely manner.
<input type="checkbox"/>	C4.3 Leadership: Influencing, inspiring, and motivating individuals and teams to accomplish goals; creating conditions for individuals and teams to be effective; and recognizing and rewarding individual and team achievements. Assigning, delegating, and reassessing tasks/ work assignments. Defining success criteria for performing tasks, tracking and managing success criteria for performance.
<input type="checkbox"/>	C4.4 Ethics: Demonstrating integrity, ethical conduct, and acceptable behavior in all activities in line with federal government principles.
C5.0 Knowledge Management: The capture, documenting, and sharing of lessons-learned and best practices in an organized fashion to reduce risk and improve performance on future programs / projects through the use of NASA processes and systems.	
<input type="checkbox"/>	C5.1 Knowledge Capture and Transfer: Identifying, capturing, evaluating and transferring knowledge in an organized fashion to improve performance and reduce risk associated with future programs, systems, and projects.
<input type="checkbox"/>	C5.2 Knowledge Sharing: Sharing organizational practices and approaches related to generating, capturing, disseminating know-how and other content relevant to NASA's business and processes.

Training Officer or Center Director Signature

Date